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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/605,979	06/29/2000	Zongquan Wu	UA 314	7929

7590 05/21/2003

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EXAMINER

VANATTA, AMY B

ART UNIT	PAPER NUMBER
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3765

DATE MAILED: 05/21/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/605,979

Applicant(s)

WU ET AL. *Cn*

Examiner

Amy B. Vanatta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Amendment

1. The amendment filed June 5, 2001 proposes amendments to the claims that do not comply with 37 CFR 1.173(b), which sets forth the manner of making amendments in reissue applications. Specifically, new claims 35-42 should be underlined. The amendment has been entered and considered herein in order to further prosecution of the application, however all amendments submitted in the future in this application must comply with 37 CFR 1.173(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 36, 40, and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 36 is indefinite in reciting "cent fibers". It is unclear what is meant by such a term.

Claim 40 is indefinite in reciting "A polymeric layer", while being dependent upon a claim for "A polymeric film". It appears that "layer" should read as "film".

Claim 42 is indefinite in reciting "2 to 30 % weight fibers". It appears that "by" should appear before "weight".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 23, 25, 32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al (US 4,338,234).

Moore et al disclose a polymer which is reinforced with chopped fibers. As disclosed in col. 2, lines 11-30, two polymer premix films are laid one on top of the other, with chopped glass fiber being deposited on the bottom film such that the fiber is between the two film layers. The film layers are then kneaded with rollers to uniformly distribute the glass fibers in the polymer premix film. Thus, the resulting product is a polymeric film having chopped glass fibers randomly dispersed therein. Moore teaches that products are made from this material, thus being "articles" as in claim 32.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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7. Claims 16, 18, 23, 25, 32, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated by Becker et al (US 5,616,650).

Becker et al disclose a polymer which is reinforced with chopped fibers (col. 12, line 61). The fibers are randomly dispersed with the polymeric matrix as claimed.

Becker discloses that the fibers may be glass (col. 13, line 34). Becker discloses that the polymer may be used to make a glove (col. 35, line 21) as in claim 16. Becker also discloses that the polymer may be in the form of a film (col. 35, lines 8, 11, and 41).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darras et al (WO 92/20244) in view of Riffle et al (US 6,020,063).

Darras et al (WO 92/20244) disclose a glove including at least three dip formed elastomeric layers (14, 16, and 18), wherein the middle layer contains whiskers or particulates (pg 4, line 10-12) randomly dispersed throughout for enhancing the glove's cut resistance. The material of the glove forms a polymeric film. Darras does not disclose the use of chopped fibers within the polymeric matrix, however chopped fibers are known to be used to reinforce polymeric matrices, as taught by Riffle et al. Riffle et

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al disclose a polymeric matrix which is reinforced or strengthened due to reinforcing material in the form of carbon fibers which are randomly dispersed within the matrix. Riffle et al disclose that the carbon fiber may be in the form of chopped fibers (col. 5, lines 40-43; col. 7, line 10). Riffle teaches that the use of the chopped carbon fibers which have been processed in the manner taught in her specification produces a reinforced polymeric matrix which has greater product durability and better performance due to increased fiber and resin compatibility. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use chopped fibers in place of the whiskers or particles of Darras to reinforce the polymeric matrix since Riffle teaches that the use of chopped carbon fibers to reinforce polymeric matrices is known in the art, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the chopped fibers of Riffle in place of the whiskers or particles of Darras to reinforce the polymeric matrix in order to produce a reinforced polymeric matrix which has greater product durability and better performance due to increased fiber and resin compatibility, as taught by Riffle.

Regarding claims 2-4, 18, 25-26, and 34, such chopped fiber materials are known to be used for reinforcement for polymeric matrices. For example, Riffle specifically discloses that glass fibers are conventionally used to reinforce polymeric matrices (col. 1, lines 24-25). It would have been obvious to one having ordinary skill in

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the art at the time the invention was made to use the fiber materials recited in claims 2-4, 18, 25-26, and 34 as the chopped fiber in the polymeric layer of Darras modified in view of Riffle et al, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Darras discloses a variety of materials which can be used for the polymeric layers, including latex, which meets claims 5-6, 17, 24, and 33. Darras does not disclose use of the polymeric mixtures recited in claims 7 and 9. Such polymeric mixtures are well known in the art, however, and are conventionally used for polymer layers or films. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polymeric mixtures recited in claims 7 and 9 as the polymeric matrix of Darras modified in view of Riffle, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claims 8, 10, 27, 36, 38, 40, and 42, Darras does not disclose the claimed weight percent of the reinforcing fiber which is added to the polymer. Regarding claims 35, 37, 39, and 41, Darras does not disclose the weight percent of the polymer in the middle layer. One having routine skill in the art would recognize that the percent fiber and corresponding percent polymer should be chosen according to the desired level of reinforcement, strength, and other desired properties of the composite. It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to use the claimed weight percentages of polymer and fibers in the composite of Darras modified in view of Riffle, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Darras and Riffle do not disclose the value of the increase in cut resistance which is provided by the fibers or other reinforcing material. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the strength and reinforcement level desired. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the materials and ratios thereof for the composite of Darras modified in view of Riffle such that the polymeric composite is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Darras discloses thickness values for the glove similar to those claimed. Darras does not, however, disclose specific thicknesses for specific regions of the gloves (such as palm, finger, and cuff thicknesses) as recited in claims 11 and 19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove of Darras modified in view of Riffle as having palm, finger, and cuff region thicknesses within the claimed ranges, since it has been held that where

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the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The reinforcing material of Darras is disclosed as being 0.0625 to 0.125 inches (1.56 mm to 3.12 mm) in length, thus meeting the length recitations of claims 14, 21, and 31.

Regarding claims 12, 13, 28, and 29, it would require only routine skill in the art to choose the materials, ratios, thicknesses, and other parameters of the glove or film such that the properties of the glove or film (tensile strength, elongation, modulus) are appropriate for the intended use of the glove or film. Moreover, regarding claims 15, 21, 22, and 30, one of routine skill in the art would recognize that the fiber thickness and denier should be chosen as appropriate for the desired strength, thickness, etc. of the glove or film. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove or film of Darras modified in view of Riffle such that the tensile strength, elongation, modulus, and fiber thickness and denier are within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

10. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darras et al (WO 92/20244) in view of Becker et al (US 5,616,650).

Darras et al (WO 92/20244) disclose a glove including at least three dip formed elastomeric layers (14, 16, and 18), wherein the middle layer contains whiskers or

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particulates (pg 4, line 10-12) randomly dispersed throughout for enhancing the glove's cut resistance. The material of the glove forms a polymeric film. Darras does not disclose the use of chopped fibers within the polymeric matrix, however chopped fibers are known to be used to reinforce polymeric matrices, as taught by Becker et al. Becker et al disclose a polymeric matrix which is reinforced or strengthened due to reinforcing material in the form of constituents which are unaffected by the polymer matrix (col. 12, lines 51-55). Becker teaches that the reinforcing material may be particulates, whiskers, flakes, chopped fiber, or other types of reinforcement (col. 12, lines 51-67). Thus, Becker suggests that whiskers, particulates, and chopped fibers are equivalent means of reinforcing polymers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use chopped fibers in place of the whiskers or particles of Darras to reinforce the polymeric matrix since Becker discloses the equivalence of chopped fibers and whiskers or particles for their use in the polymeric composite art and the selection of any of these known equivalents to reinforce the polymeric matrix of Darras would be within the level of ordinary skill in the art. Additionally, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use chopped fibers in place of the whiskers or particles of Darras to reinforce the polymeric matrix since Becker specifically teaches the use of chopped fibers to reinforce a polymeric matrix, and it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

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Regarding claims 2-4, 18, 25-26, and 34, such chopped fiber materials are known to be used for reinforcement for polymeric matrices. For example, Becker specifically discloses that glass fibers may be used as the reinforcing fibers (col. 13, line 34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fiber materials recited in claims 2-4, 18, 25-26, and 34 as the chopped fiber in the polymeric layer of Darras modified in view of Becker et al, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Darras discloses a variety of materials which can be used for the polymeric layers, including latex, which meets claims 5-6, 17, 24, and 33. Darras does not disclose use of the polymeric mixtures recited in claims 7 and 9. Such polymeric mixtures are well known in the art, however, and are conventionally used for polymer layers or films. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polymeric mixtures recited in claims 7 and 9 as the polymeric matrix of Darras modified in view of Becker, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125.

Regarding claims 8, 10, 27, 36, 38, 40, and 42, Darras does not disclose the claimed weight percent of the reinforcing fiber which is added to the polymer.

Regarding claims 35, 37, 39, and 41, Darras does not disclose the weight percent of the

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polymer in the middle layer. One having routine skill in the art would recognize that the percent fiber and corresponding percent polymer should be chosen according to the desired level of reinforcement, strength, and other desired properties of the composite. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the claimed weight percentages of polymer and fibers in the composite of Darras modified in view of Becker, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Darras and Becker do not disclose the value of the increase in cut resistance which is provided by the fibers or other reinforcing material. The value of the increase in cut resistance is dependent upon the types of fiber and polymer selected and the weight percent of each which is used. One having routine skill in the art would recognize that the fibers and polymers and the ratios thereof may be varied and chosen according to the strength and reinforcement level desired. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the materials and ratios thereof for the composite of Darras modified in view of Becker such that the polymeric composite is provided with a cut resistance which is increased by at least 20 percent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Darras discloses thickness values for the glove similar to those claimed. Darras does not, however, disclose specific thicknesses for specific regions of the gloves

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(such as palm, finger, and cuff thicknesses) as recited in claims 11 and 19. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove of Darras modified in view of Becker as having palm, finger, and cuff region thicknesses within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The reinforcing material of Darras is disclosed as being 0.0625 to 0.125 inches (1.56 mm to 3.12 mm) in length, thus meeting the length recitations of claims 14, 21, and 31.

Regarding claims 12, 13, 28, and 29, it would require only routine skill in the art to choose the materials, ratios, thicknesses, and other parameters of the glove or film such that the properties of the glove or film (tensile strength, elongation, modulus) are appropriate for the intended use of the glove or film. Moreover, regarding claims 15, 21, 22, and 30, one of routine skill in the art would recognize that the fiber thickness and denier should be chosen as appropriate for the desired strength, thickness, etc. of the glove or film. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the glove or film of Darras modified in view of Becker such that the tensile strength, elongation, modulus, and fiber thickness and denier are within the claimed ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

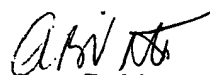
11. Applicant's arguments with respect to claims 1-34 have been considered but are moot in view of the new ground(s) of rejection.
12. Applicant's arguments with respect to the issue of recapture have been considered and the rejections pertaining thereto have been withdrawn.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy B. Vanatta whose telephone number is (703) 308-2939. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (703) 305-1025. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3579 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.


Amy B. Vanatta
Primary Examiner
Art Unit 3765

abv
May 14, 2003